



PATENT

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Our Reference: DP-307920

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	John T. Waidner and Dwayne D. Fortune
Serial Number:	10/705,443
Filing Date:	November 10, 2003
Examiner/Art Group Unit:	Noori, Max H./2855
Confirmation No.:	4601
Title:	FLUID-FILLED SEAT BLADDER HAVING INTEGRAL INTERFACE PANEL

APPEAL BRIEF

Hon. Commissioner for Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Please enter the following Appeal Brief in the appeal filed on May 31, 2006.

REAL PARTY IN INTEREST

The real party in interest is Delphi Technologies, Inc., by assignment from the inventors, John T. Waidner and Dwayne D. Fortune.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences in the present application.

STATUS OF CLAIMS

Claims 2, 3, 4, 8 and 9 are pending in the Application. Claims 1, 5, 6 and 7 have been cancelled. Claims 8 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of *Massara*. Claims 2-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Massara* and further in view of *Gaither*. The language of the current claims on Appeal is attached as Appendix A.

STATUS OF AMENDMENTS

No Amendment was filed to the final Office Action dated April 4, 2006.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The present intention is directed to an improved elastomeric seat bladder for occupant weight estimation, where the bladder is formed by upper and lower sheets of peripherally joined elastomeric material, with at least one of the upper and lower sheets of the elastomeric material being sufficiently thick to effectively serve as an integral interface panel for weight distribution, while eliminating the need for separate upper and lower, thick, rigid interface panels sandwiching an inflated bladder therebetween as in prior art seats.

As shown in Figs. 2 and 3, a fluid-filled elastomeric bladder assembly 40, 50 is disposed in a vehicle seat intermediate an occupant load-bearing seat cushion or bottom 10 (page 3, lines 20-22) and underlying spring suspension structure (12, page 3, line 22, Figs. 2 and 3) for occupant weight estimation.

Upper and lower interface panels are formed of relatively thick material for occupant load distribution (42 and 44b for the bladder assembly 40 shown in Fig. 2, and 52 and 54 in the bladder assembly 50 shown in Fig. 3).

A sheet of relatively thin elastomeric material (44a, page 4, lines 3 and 4 for the bladder assembly 40 shown in Fig. 2 and 52b, page 4, lines 9 and 10, and the bladder assembly 50 shown in Fig. 3) is disposed between the upper and lower interface panels (42 and 44b in Fig. 2 and panels 52 and 54 in Fig. 3). The sheet of thin elastomeric material (44a, 52b, Figs. 2 and 3) is peripherally joined to one of the interface panels to form a closed bladder 44 for the bladder assembly of Fig. 2 and 52 for the bladder assembly 50 of Fig. 3, as shown in Figs. 2 and 3) and defining a volume therebetween for filling with a fluid.

The sheet of thin elastomeric material (44a in Fig. 2 and 52b in Fig. 3) and the interface panel to which it is peripherally joined (interface panel 44b in Fig. 2 and interface panel 52a in Fig. 3, see page 4, lines 14-21 and Figs. 2 and 3) form upper and lower load bearing surfaces.

A port (page 1, line 26 and Figs. 2 and 3) extends through each bladder (40, 50) for establishing fluid communication between the bladder volume and a fluid pressure sensor 22 (page 1, line 26 and Figs. 2 and 3).

GROUND'S OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of *Massara*.
2. Claims 2-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Massara* and further in view of *Gaither*.

ARGUMENT

Issue 1: Rejection of Claims 8 and 9

Claims 8 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of *Massara*. The Examiner states with respect to claim 9 that

“AAPA discloses a fluid-filled elastomeric bladder assembly for disposition in a vehicle seat intermediate an occupant load-bearing seat cushion and an underlying spring suspension for occupant weight comprising an upper and lower interface panels of relatively thick material and a sheet of relatively thin elastomeric material disposed between these panels. The sheets are partially peripherally joined to the panels, forming a closed bladder for filling with fluid. ... Even though the sheets are peripherally [jointed] to the panel they are not completely peripherally connected.”

The Examiner contends that such a configuration not only does not solve any stated problem, but also was well known in the art. The Examiner cites *Massara* as disclosing a dual spring seat back suspension system for an automatic seat teaching a bladder configured to join to an upper and lower panel in a peripheral manner (see Fig. 4).

The Examiner concludes:

“Therefore, it would have been obvious for a skilled artisan at the time of the invention to modify AAPA to shape the bladder to join in the panel in any desired manner such as peripherally in order to have more area of contact and as a result for more comfortable seating suspension.”

In claim 9, Appellants’ invention is defined as including upper and lower interface panels formed of relatively thick rigid material. A sheet of relatively thin elastomeric material is disposed between said upper and lower interface panels and peripherally joined to one of the interface panels to form a closed bladder. The sheet of thin elastomeric material and the interface panel to which it is peripherally joined form upper and lower load surfaces.

It is respectfully submitted that the rejection is unsupportable since the Examiner is focusing on the peripheral joining of the sheets rather than the overall structure of the bladder and interface panels.

In the AAPA, two thick, rigid interface panels sandwich a bladder assembly formed of two thin elastomeric sheets which are peripherally joined together to form an inflatable bladder. The bladder assembly formed of the two thin, joined sheets is completely independent of and separate from the two thick interface panels.

Massara discloses a structure in which a sealed bladder formed of two sheets peripherally joined together is inserted between two seat members with no fixed direct connection between the bladder and the seat members.

Appellants' invention is defined in claim 9 uniquely forms the sealed bladder of one thin elastomeric sheet and one relatively thick elastomeric sheet. The thick elastomeric sheet provides the dual function of forming one side of the bladder as well as acting as the thick interface panel for load distribution. Appellants' invention therefore has one less component than the AAPA seat bladder structure since one of the thin elastomeric sheets and one of the separate, rigid, thick interface panels in the AAPA are combined into a single thick elastomeric sheet joined to thin elastomeric sheet to form the bladder.

For these reasons, it is respectfully submitted that the Examiner has failed to establish a *prima facie* case of obviousness to support a rejection of Appellants' invention as set forth in claim 9 over any permissible combination of AAPA in view of *Massara*.

Appellants' invention as set forth in claim 8 depends from claim 9 to include all of the features thereof and to add at least one interperipheral spot weld locally joining the sheet of elastomeric material in the interface panel to which it is peripherally joined.

For the same reasons set forth above with respect to claim 9, Appellants' invention as set forth in claim 8 is likewise submitted to patentably define over any permissible combination of the cited references.

Issue 2: Rejection of Claims 2-4

Claims 2-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of *Massara* and further in view of *Gaither*.

Regarding claim 2, the Examiner contends that when all of the elements of the claimed invention are presented in the prior art, the mere recitation of the dimensions and sizes are unobvious modifications.

However, it is submitted that the Examiner has not established that all of the elements of Appellants' invention set forth in claim 2 are presented in the prior art. As noted above for claim 9, from which claim 2 depends, Appellants' invention differs from the prior art since one thick, rigid interface panel, distinct from the two joined thin sheets forming the bladder, has been eliminated by replacing one of the thin elastomeric sheets of the bladder with a thicker elastomeric sheet which is joined to the other thin sheet to form the bladder. Thus, since the structure of Appellants' invention as set forth in claims 2 and 9 is not shown in the prior art, the dimensions set forth in claim 2 become novel and non-obvious since such dimensions support the combined bladder and one interface panel set forth broadly in claim 9.

Further, Appellants contradict the Examiner's statement that the description of the prior art lacks a discussion of the dimensions for the various elements. This is incorrect as the thickness of the elements in the AAPA are clearly set forth on page 3, lines 28-30 of the specification.

The Examiner cites *Gaither* for teaching a bladder having similar dimensions which is made of an elastomeric material having a thickness in the range of presumably one-quarter inch to one inch (1/4" - 1"). The Examiner contends that *Gaither's* bladder is potentially made of first and second sheets, but is not elaborated on. From these sketchy, non-elaborated details, the Examiner still contends that it would have been obvious to modify AAPA with the teachings of *Gaither* to teach two sheets of elastomeric material with a specific thickness for the purpose of designing the bladder to resist dynamic fatigue and compression.

The Examiner has correctly noted that *Gaither* is devoid of any discussion of forming the bladder of first and second sheets. *Gaither* discloses only a pad formed of a visco-elastic, liquid-solid material constructed of a poly-ether based polyurethane material. The pad is defined as having a thickness in the range of one-quarter inch to one inch (1/4" - 1"). However, *Gaither* is devoid of any teaching of forming the pad as an inflatable

bladder or of any teaching of forming the pad with two sheets which are peripherally joined together to form a fillable internal volume.

The Examiner's interpretation of *Gaither* clearly is hindsight reconstruction as the Examiner is trying to read features into *Gaither* which are completely lacking in *Gaither* and can only be found in Appellants' invention defined in claim 2.

For these reasons, it is respectfully submitted that Appellants' invention as set forth in claim 2 patentably finds over any permissible combination of AAPA, *Massara* and *Gaither* as posed by the Examiner.

Regarding claims 3 and 4, the Examiner contends that AAPA shows upper and lower load-bearing surfaces. This is true, however, the Examiner is ignoring Appellants' invention in its entirety as defined in claims 9 and 2, from which claims 3 and 4 depend. Both AAPA and Appellants' invention have upper and lower load-bearing surfaces. However, AAPA is devoid of any teaching of forming the sheet as one of the upper or lower load-bearing surfaces of the bladder as AAPA sandwiches the two peripherally-joined thin sheets between two separate, thick, rigid interface panels.

Appellants' invention is opposite from the structure of the AAPA as it combines one of the sheets of the bladder and one of the interface panels into a single thick sheet, thereby eliminating the need for two separate interface panels as in the AAPA.

For these reasons, it is respectfully submitted that Appellants' invention as set forth in claims 3 and 4 patentably defines over any permissible combination of the cited references as posed by the Examiner.

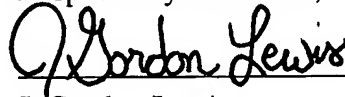
CONCLUSION

For the reasons set forth above, it is respectfully submitted that Appellants' invention as set forth in claims 2-4, 8 and 9 patentably defines over the cited references and is not suggested or rendered obvious thereby. As such, it is respectfully submitted that the Examiner's final rejection of claims 2-4, 8 and 9 is erroneously based and its reversal is respectfully requested.

No oral hearing is requested.

The commissioner is hereby authorized to charge any fees associated with this communication and/or credit any overpayments to Deposit Account No. 50-0831.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "J. Gordon Lewis", is written over a horizontal line.

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WMH/kl

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APPENDIX A: CLAIMS AT ISSUE IN APPEAL

CLAIM 2 An elastomeric bladder assembly according to Claim 7 Claim 9, wherein said first sheet of elastomeric material has a thickness of approximately 0.375 mm (0.015 inch) and said second sheet of elastomeric material the interface panel to which it is peripherally joined has a thickness of approximately 1.50 mm (0.60 inch).

CLAIM 3 An elastomeric bladder assembly according to Claim 2, wherein said first sheet forms the upper load bearing surface of said bladder.

CLAIM 4 An elastomeric bladder assembly according to Claim 2, wherein said first sheet forms the lower load bearing surface of said bladder.

CLAIM 8 The elastomeric bladder assembly of claim 7 Claim 9, further comprising at least one interperipheral spot weld locally joining said first and second sheets sheet of elastomeric material and the interface panel to which it is peripherally joined.

CLAIM 9 A fluid-filled elastomeric bladder assembly adapted for disposition in a vehicle seat intermediate an occupant load bearing seat cushion and an underlying spring suspension structure for occupant weight estimation, said fluid-filled elastomeric bladder assembly comprising:

upper and lower interface panels formed of relatively thick rigid material for occupant load distribution;

a sheet of relatively thin elastomeric material disposed between said upper and lower interface panels and peripherally joined to one of said interface panels to form a closed bladder and defining a volume therebetween for filling with a fluid, said sheet of thin elastomeric material and the interface panel to which it is peripherally joined forming upper and lower load bearing surfaces; and

a port extending through said bladder and adapted for establishing fluid communication between said bladder volume and a fluid pressure sensor.

APPENDIX B: EVIDENCE

NONE

APPENDIX C: RELATED PROCEEDINGS

NONE